

Examining Adolescent Suicide: How to Identify the Risks

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## Examining Adolescent Suicide

### Abstract

Adolescent suicide is concerning because it is the third most common cause of death for Americans ages fifteen to twenty-four. In order to examine why adolescent suicide occurs, this author conducted a literature review and found that there are many different risk factors that increase the likelihood that an adolescent will attempt suicide. To find these risk factors, many screening tools have been developed to screen adolescents for suicide risk and for research purposes. Since these screening tools are used by clinicians and researchers, this author developed a screening tool for peers and lay persons to use to determine what suicide risk factors are present.

### Introduction

For Americans ages fifteen to twenty-four, suicide is the third most common cause of death. Not only is the loss of life tragic, but there are an estimated six loved ones or friends that each suicide leaves behind. This means there are approximately 4.5 million secondary victims of suicide within the United States (Thomas & Leitner, 2005). Because suicide affects so many lives within the United States, it is important to be able to identify the risk factors that increase the risk that an individual will attempt suicide. According to the American Association of Suicidology (AAS), risk factors for suicide are the unchanging, long-standing factors that predispose a person to suicidal behavior (Goldstein, Brent, & Bridge 2008). Although having one risk factor may not lead to suicidal behavior, there may be an increase in the risk of suicidal

behavior when a person displays multiple risk factors. Since there are many different risk factors and combinations of risk factors that may lead to suicidal behavior, there are many different screening tools that professionals use to detect these risk factors. Research examines different risk factors of suicide in adolescents will be described, and the different screening tools for these risk factors will be examined.

### Methodology

To find research, terms were entered into the PsychINFO, Academic Search Premier, and SAGE full text collection databases. Search terms ranged from broad terms such as “suicide and adolescents” and then to specific searches such as “suicide, adolescents, and abuse” or “suicide and bullying.” To find the most useful articles, the search was only for articles that were peer reviewed and published after the year 2000.

### Identified Risk Factors

#### *Previous Attempts*

According to many different studies, the best predictor for a future suicide attempt is if the adolescent has made a prior attempt (Apter & King, 2006; Bolognini, Eskin, Ertekin, Dereboy, & Demirkiran, 2007; Plancherel, Laget, & Halfon, 2003; Groholt, Ekberg, & Haldorsen, 2006; Gutierrez, 2006; Gutierrez & Osman, 2008; Miller et al, 2007; Moskos, Achilles, & Gray, 2004; Langhinrichsen-Rohling & Lamis, 2008; Palmer, 2008; Shain, 2007; Waldrop, Naugel, & Saunders, 2007, Watt & Sharp, 2002). Adolescents with a history of multiple attempts and persistent suicidal ideation are at an increased risk of repeating attempts and eventually completing suicide (Apter & King, 2006; Lyon et al, 2000). Langhinrichsen-Rohling & Lamis (2008) state that adolescents who have attempted suicide in the past are eight

times more likely to attempt suicide than adolescents with no prior attempts. This also means that prior attempts make the adolescent 40 times more likely eventually to complete a suicide. Groholt et al. (2006) found that 42% of study participants made at least one suicide attempt during the follow-up period, and two of the study participants died by suicide. Palmer et al. (2008) reveal that 23-30% of adolescents that are discharged from psychiatric inpatient care commit suicide within three months, with a peak period during the first two weeks. These studies show that the risk of another suicide attempt is heightened for many years after the initial attempt.

### *Risk Factor Model*

On the other hand, there are many adolescents that complete a suicide without having any prior attempts. This is when one must consider a broader ecological risk factor model, which takes multiple factors into account. When there are more risk factors present, the risk of attempting suicide increases with each additional factor present. Risk factors are grouped into two different categories, either proximal or distal. Roy (2001) defines distal risk factors as development, psychological, or social variables that affect the threshold for suicide, and proximal risk factors are trigger events that increase this risk or precipitate suicide. Miller et al. (2007) list proximal risk factors as stressful life events, sexual and/or physical abuse, substance abuse, disease and/or injury, and having access to the intended means of committing suicide. Distal factors are prior suicide attempts, having a mental illness, chronic family disturbance such as parental substance abuse, gender, ethnicity, and sexual orientation. A proximal risk factor combined with one or two distal factors increases the risk for suicide. However, past behaviors of attempting suicide are still the strongest predictors of future suicide, and should be weighted

more than stressful life events or any other proximal risk factor (Bolognini, 2003; Miller et al, 2007).

### *Psychiatric Disorders*

Although past attempts are the best predictor of future attempts, research has shown that any psychiatric disorder is a factor that significantly increases the risk of an adolescent committing suicide. Studies have shown that 90% of adolescents who completed suicide either were diagnosed or fit the criteria for a psychiatric disorder (Apter & King, 2006; Bolognini et al, 2003; Groholt, 2006; Langinrichsen-Rohling & Lamis, 2008; Moskos, 2004; O'Donnell et al, 2004; Palmer, 2008; Gutierrez, 2006; Gutierrez & Osman, 2008; Hardt et al, 2006; Waldrop et al, 2007). The most common psychiatric disorders in adolescents who completed suicide are mood disorders, especially depression, personality disorders, and substance use disorders (Apter & King, 2006; Bolognini et al, 2003; Eskin et al, 2007; Giddens, 2007; Groholt, 2006; Langinrichsen-Rohling & Lamis, 2008; Moskos, 2004; Palmer, 2008; Gutierrez, 2006; Gutierrez & Osman, 2008; Shain, 2007; Waldrop et al, 2007; Werenko et al, 2000). The high percentage of adolescent suicide completers with psychiatric disorders is alarming, since approximately 70% of adolescents with mental health problems do not receive appropriate mental health services (Faille, Clair, & Penn, 2007). This shows that untreated mental illness can be fatal, and perhaps making mental health services more accessible would potentially lower the suicide rate.

Depression is a commonly researched risk factor for suicide. Eskin et al. (2007) state that depression is one of the most serious risk factors for adolescent suicide. In fact, adolescents who are clinically depressed are five times more likely than non-depressed adolescents to attempt suicide (Gidden, 2007, Gutierrez & Osman, 2008). In a studies by O'Donnell et al. (2004) and

Waldrop et al. (2007), out of all the variables in the study, depressive symptoms had the strongest effect on suicide ideation and attempts. From this, Waldrop et al. (2007) calculated that adolescents with major depressive disorder were six times more likely to report a past suicide attempt than non-depressed peers. Apter & King (2006) state that the more chronic the depression is, the more likely the adolescent is to attempt suicide. Kirkcaldy et al. (2004) found that depression was one of the most general predictors of suicidal ideation and self harming behavior. Allison et al. (2001) support this conclusion, because the study found that depression significantly increases suicidal ideation.

There is very strong evidence suggesting that having depression greatly increases the likelihood of an adolescent attempting suicide. A possible reason expressed in Langinrichsen-Rohling & Lamis (2008) is that depression is associated with the individual becoming hopeless. Because of this, adolescents with depression may be more prone to attempt suicide. Gutierrez & Osman (2008) state that although hopelessness is not a diagnosable disorder in itself, it is found within many psychiatric disorders and increases the risk that an adolescent will attempt suicide. A longitudinal study by Nrugham, Larsson, and Sund (2008) found that hopelessness predicts suicide attempts during the ages of 15 to 20 with an odds ratio of 26.5, but only is associated with suicide attempts for other years with an odds ratio of 30.5 before age 15 and 46.3 after the age of 15. Although this study demonstrates that hopelessness may not predict suicide for all ages, it is an important risk factor associated with suicide attempt. Rutter and Estrada (2006) support the theory that hopelessness is a significant predictor of suicidal behavior, and also state that combined with impulsivity hopelessness can become quite lethal.

Many studies also state that the likelihood of suicide is heightened when the individual has dual diagnosis, for example when a person has both a psychiatric disorder and substance

dependency disorder (Perkins & Hartless, 2002; Bolognini et al, 2003, Waldrop et al, 2007; Giddens, 2007; Moskos et al, 2004; Palmer, 2008; Gutierrez & Osman, 2008). Miller et al. (2007) reveal that those with Axis I or II disorders along with substance disorders were the most at risk for attempting suicide. Groves, Stanley, and Sher (2007) state that adolescents with depression and alcohol dependence are at an increased risk for attempting suicide, because both depression and alcohol dependence independently increase the risk and then the combination also leads to an increase in risk.

Substance dependence and use on its own is also a risk factor for adolescent suicide. Perkins and Hartless (2002) found that alcohol use was a significant predictor of suicide ideation, and hard drug and alcohol use significantly predicted which adolescents had past suicide attempts. Adolescents who used substances were three times more likely to attempt suicide than non-users (Miller et al, 2007). Swhan & Bossarte (2007) found that preteen alcohol usage increased the likelihood of suicide ideation and suicide attempts. Groves et al. (2007) found that males with alcohol dependence were seventeen times more likely to attempt suicide, and females with alcohol dependence were three times more likely to attempt suicide than adolescents without alcohol dependence.

According to Miller et al. (2007), most adolescents that have attempted suicide and those who had completed suicide tested positive for drugs and/or alcohol at the time of the suicidal act. Studies have shown that approximately one third to fifty percent of all suicide completers were under the influence of drugs or alcohol at the time of death (Giddens, 2007; Werenko et al, 2000, Fleming et al, 2008). From this finding, Waldrop et al. (2007) conclude that alcohol intoxication in itself may be a risk factor, because it may trigger a person to move from suicide ideation to attempting and possibly completing suicide. This theory is supported by Swhan & Bossarte

(2007), since the study found that alcohol intoxication impaired problem solving skills, which may precipitate a suicide attempt. Fleming et al. (2008) also state that alcohol lowers inhibitions, which also increases the likelihood of attempting suicide.

In a review of literature and research on adolescents, Bolgnini et al. (2003) found and elaborate on many different theories on the reasons that abusing drugs increases suicide risk. One theory is that drug abuse leads to a breakdown in an individual's relationships with others and creates social isolation, which increases the suicide risk. Another theory is that drug abuse creates changes in mood that may cause an increase in suicide ideation and depression. This increase in suicide ideation and depression may lead to a suicide attempt. Another theory purposed by Groves et al. (2007) is that alcoholism, depression, and suicidal behavior may be associated with the same biological factors, which could explain why these factors have such strong associations with one another. Multiple studies support the theory that substance use leads to a vulnerability to developing depression, impulsivity, and suicidal emotions (Giddens, 2007; Groves et al, 2007; Swahn & Bossarte, 2000). Swahn & Bossarte (2000) also found that alcohol intoxication leads to aggression in some individuals, and this combined with a decrease in judgment may precipitate a suicide attempt that becomes fatal.

### *Gender*

Gender is another risk factor for suicide. Studies have shown that females are more likely to have suicide ideation and attempt suicide, while males have a higher rate for completed suicides (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2008; Perkins & Hartless, 2002; Kirkcaldy, Eyesenck, & Siefen, 2004; Liu, 2004; Waldrop et al, 2007; Watt & Sharp, 2002, Werenko et al, 2000). Miller et al. (2007) found that females attempted suicide four times more



frequently than males. Suicide completion is more common in males than females, at a ratio of five to one, meaning males are four times more likely to die from suicide than females (Moskos et al, 2004; Palmer, 2008). In a study by Eskin et al. (2007), girls had higher depression and suicidal probability scores than boys, and girls also had more nonfatal suicidal behaviors than boys.

One explanation of why females ideate and attempt suicide more often than males is because females have more mood disorders than males, and mood disorders tend to have suicidal ideation as a symptom and increase the risk of attempting suicide. A study by Allison et al. (2001) supported this theory when it found that 27.5% of females and 18.9% of males had suicide ideation, and females had a significantly higher mean depression score (13.9) than males (11.4). Also, males have higher rates of aggression and substance abuse disorders, which could explain why males have higher rates of suicide completion (Miller et al, 2007). There is a theory that states it is more socially acceptable for males to complete suicide instead of a nonfatal attempt, while it is more socially acceptable for females to have numerous attempts without completion (Moskos et al, 2004). Kirkcaldy et al. (2004) found that females contemplated suicide (19.3%) more than males (8.9%), and three to four times as many females attempted suicide or injured themselves (19.3%) than males (5.9%). From these findings, Kirkcaldy et al. (2004) conclude that suicidal ideation and self-destructive behavior are strongly influenced by anxiety and depression levels, and previous research shows that females tend to have higher trait anxiety in addition to higher rates of depression. This means that since females tend to be more anxious and depressed than males, females will tend to display more self-injurious behavior and suicidal ideation than males.

### *Ethnicity*

Ethnicity is another risk factor for adolescents. Moskos et al. (2004) report that suicide is predominately completed by Caucasians, while suicide among minorities is relatively low. Grove, Stanley, and Sher (2007) report that 6% of Caucasians, 8.4% of African Americans, and 10.6% of Hispanic adolescents attempt suicide, while Caucasians have the highest completion rate, followed by Hispanic Americans, African Americans, then Asian Americans. Suicides are most common with the Native American population, especially males (Miller et al, 2007, Shain, 2007, Werenko et al, 2000). In fact, Olson and Wahab (2006) state that for Native American adolescent males, the suicide rate is 2.5 times higher than the overall suicide rate for other adolescent males. Tribes that have less traditional values have higher suicide rates in adolescents than tribes that follow traditions.

The phenomenon of Caucasians committing suicide more frequently than minorities has puzzled researchers, since minorities face discrimination and other difficulties that the majority Caucasian population does not face. African Americans have high rates of suicide within higher socioeconomic status, while other minorities have higher suicide rates in the lower socioeconomic rankings (Miller et al 2007; Waldrop et al, 2007). Poverty is considered a social strain, and when social strains occur it may increase the risk of suicide. However, Watt and Sharp (2002) believe that although African Americans have more social strain than Caucasians, African Americans tend to be more religious than Caucasians. African Americans also have a culture that believes suicide is unacceptable, and this combined with religion may protect African Americans from suicide even with high amounts of social strain (Watt & Sharp, 2002). However it is unclear why African Americans within a higher socioeconomic status tend to have higher rates of suicide, but a possible reason is from the social isolation and discrimination that may occur when a minority status individual enters a high socioeconomic status.

In a study by Muehlenkamp et al. (2005), Asian Americans had significantly higher negative suicide ideation scores than Caucasians, which contradicts other studies that show Asian Americans having the lowest level of negative suicide ideation. However, researchers believe that this difference is attributed to the reports that many Asian Americans feel pressure from family to succeed, which leads to a negative suicide ideation score. Hispanic Americans also had higher levels of positive ideation, which serves as a protective factor against suicide, and this finding also contradicts other studies (Muehlenkamp et al, 2005). In fact, Rutter and Estrada (2006) discovered that Hispanic American youth are at elevated risk for suicide, because acculturation creates family discord that increases the risk of suicide. Not only does ethnicity play a role in adolescent suicide risk, but the culture to which one belongs may either heighten or decrease the risk of suicide. Acculturation seems to increase suicide risk in multiple different ethnic groups, while staying with traditions seems to decrease and protect against suicide. This could be attributed to the family conflict that arises from acculturation, as seen in the Rutter and Estrada (2006) study.

#### *Physical and Sexual Abuse and Neglect*

Experiencing abuse, either physical or sexual, has also been shown to increase the risk of an adolescent committing suicide (Shain, 2007; Olson & Wahab, 2006; Groholt et al, 2006; Oates, 2004). Apter and King (2006) state that physical and sexual abuse are not only risk factors that increase the risk of suicide but may precipitate an acute suicidal crisis after an incident of abuse. Perkins and Hartless (2002) found that both physical and sexual abuse had an association with suicidal thoughts and attempts for all adolescents, regardless of ethnicity or gender. Adolescents who are victims of violence have more depressive symptoms, display

higher levels of suicidal ideation than non-victims, and are more likely to have attempted suicide than non-victims (Klomek et al, 2008; Waldrop et al, 2007).

Victims of sexual abuse have higher than average rates of depression, suicidal thinking, and alcohol usage (Chen, Dunne, & Han, 2006). Arata et al. (2007) found that adolescents with a history of physical and/or sexual abuse or neglect had higher rates of substance abuse than adolescents with no abuse or neglect. As mentioned earlier, substance abuse is also linked to an increase in suicide risk, and the fact that victims turn to drugs and alcohol to cope increases the risk of suicide even more.

In a study by Arata et al. (2007), individuals who experienced sexual abuse and those who experienced neglect as children had higher levels of hopelessness than those who experienced physical abuse only. Also, this study found that individuals who experienced neglect had higher rates of depression, suicide proneness, delinquency, and substance abuse than adolescents that had physical abuse only and those with sexual abuse. A study by Lyon et al. (2000) had a history of neglect as one of the strongest predictors of suicide attempts in adolescents. Again, it is clear that having a history of abuse, either physical or sexual, and neglect not only increases the likelihood of suicidal ideation, but also increases the likelihood of the individual to develop other risk factors. It is also important to consider the findings from Arata et al. (2007), since it shows that different types of abuse and neglect tend to have different symptoms, although all types of mistreatment increase the risk of suicide for adolescents.

### *Family Factors*

Family history and dynamics are important factors when considering suicide risk. Research has shown that a family history of suicide and/or mental illness increases the risk of an

individual attempting suicide (Palmer, 2008; Shain, 2007; Kidd, 2006). Moskos et al. (2004) states that like depression, the vulnerability to attempt suicide may be genetic. This study also hypothesizes that some families may have a more virulent form of depression that makes a suicide attempt more likely. In fact, suicide rates are higher for monozygotic twins, compared with dizygotic twins (Moskos et al., 2004). This shows that there may be a complex genetic influence on why some individuals commit suicide.

Another possible reason for the increase in the suicide risk for adolescents with a family history of suicide can be found within a study by Apter & King (2006), which reports that modeling, genetic risk factors, and sharing a disturbed family environment contributes to the increase in suicide risk. Children learn from seeing and repeating what parents and other loved ones do. If children see a parent or other family member commit suicide, it is possible that they will model this behavior later in life. Besides modeling, parents and children share the same environment. If something in the environment leads a parent to commit suicide, then the child has been exposed to the same environment and might also commit suicide. Since a shared environment contributes to the family history of suicide, family dynamics are an important aspect of assessing risk of suicide for the adolescent.

Households with negative family dynamics seem to increase the risk of suicide attempts in adolescents. Lyon et al. (2000) state that a disturbance in the parent-child relationship contributes to suicide attempts in adolescents. One study that supports this theory is when Groholt et al. (2006) compared adolescents who had repeated suicide attempts to those who had not, it was found that repeaters perceived their parents as being less caring, and that their fathers were controlling and unaffectionate. One third of adolescents had been threatened with being separated from their parents within seven days prior to a suicide attempt in a study by Lyon et

al. (2000), and threat of parental separation was one of the strongest predictors of a suicide attempt. Waldrop et al. (2007) discovered that adolescents who had parents that had substance abuse issues had more suicide ideation than control adolescents. This study also found that parental substance abuse was related to financial difficulties, more child abuse, and increased hopelessness in the adolescent. Kidd (2006) found that having a parent with a criminal record predicted which adolescents experienced suicidal ideation and behaviors.

### *Insomnia*

Sleep is vital for functioning in daily life. Sleep disturbances have been linked to suicidal behavior. A study by Goldstein, Brent, and Bridge (2008) compared sleep patterns of adolescents who completed suicide against community controls, and found that suicide completers have higher rates of insomnia and hypersomnia. Adolescents who died from suicide had more sleep disturbances the week preceding death and during depressive episodes. Another study also found that adolescents with insomnia are more likely to use drugs and alcohol, have depression, think about suicide, and have previous suicide attempts than adolescents without insomnia (Lyon et al., 2000; Roane & Taylor, 2008). In fact, Lyon et al. (2000) state that one of the strongest predictors of suicide attempt was the presence of insomnia. This could be related to the fact that ninety percent of adolescents that attempt and/or complete suicide have psychiatric disorders and some of these disorders have sleep disturbances as a symptom. However, Goldstein et al. (2008) found differences in sleep patterns of those who committed suicide when psychiatric disorders were accounted for. Goldstein et al. (2008) also found that nightmares were associated with an increased risk for suicide ideation and suicide attempts. Nightmares tend to cause sleep disturbances, which other studies have shown increase the risk of suicide ideation and attempts. It is also important to remember that during adolescence, there are

developmental changes and societal pressures that when combined create sleep disturbances. In fact, it is estimated 10.7% of all adolescents experience insomnia (Roane et al., 2008). Roane et al. (2008) also found that insomnia not only increases the risk attempting suicide during adolescence (odds ratio of 10.2 vs. 2.9 for no-insomnia group), but insomnia also increases the risk several years after adolescence (odds ratio of 3 vs. 1.4 for no-insomnia group), even after psychiatric disorders were accounted for. This means that adolescents with insomnia need intervention for the sleep disturbance to decrease the likelihood of a future suicide attempt.

### *Sexual Orientation*

Sexual orientation is considered a distal risk factor for adolescent suicide. Adolescents who are gay, lesbian, bisexual, or transgender are up to six times more likely to attempt suicide, and this risk is heightened during the “coming out” phase (Miller et al., 2007; Giddens, 2007; Shain, 2007; Fleming et al., 2007). During the coming out phase, rejection of friends and family may lead to social isolation, or victimization, which is a possible reason behind why the coming out period increases the risk of suicide. The coming out phase is not a single occurrence, but can span for any length of time depending upon the individual. Morrison & L’Heureux (2001) state that suicide risk is heightened when homosexual or bisexual youth acknowledge their orientation at an early age, have a history of physical and/or sexual abuse, and have either internal or external conflict regarding their sexual orientation. A study revealed the fifty percent of gay male adolescents had a history of multiple suicide attempts (Morrison & L’Heureux, 2001). This is concerning, because the more previous attempts an adolescent has, the more likely that the individual will die from suicide. In fact, the U.S. Department of Health and Human Services reports that gay and lesbian youth are three times more likely to commit suicide than heterosexual youth (Morrison & L’Heureux, 2001). D’Augelli (2001) discovered that

adolescents with a gay, lesbian, or bisexual orientation and a history of suicide attempts have more mental health symptoms than homosexual and bisexual adolescents without any prior attempts.

### *Physical Illness and Disease*

Physical illness and disease that is life threatening, chronic, or debilitating is also considered a distal risk factor of suicide (Palmer, 2008). In fact, individuals with HIV/AIDS diagnosis have suicide rates that are sixty-six times higher than the general population (Palmer, 2008). Wachter and Bouck (2008) state that a diagnosed disability, including a learning disability, is a risk factor for suicide. A reason for this may lie in the fact that students with disabilities might be more susceptible to depression, and that many students with disabilities have low social supports. Both of these factors may cause an additional increase in suicide risk. Also, having an emotional and behavioral disorder is linked with more suicide ideation and attempts, which may be related to the absence of coping and problem solving skills in individuals with emotion regulation and behavioral disorders (Wachter & Bouck, 2008).

### *Bullying*

Relatively recently in the study of suicide bullying has been revealed as a risk factor. Wachter and Bouck (2008) state that being a bully or a victim of a bully is a danger sign for suicide. Giddens (2007) states that bullying can lead to depression and a combination of being bullied and depressed may lead to attempting suicide. This occurrence has been termed “bullycide.” The relationship between being bullied and suicide is alarming, because studies have shown that approximately 80% of high school students and 90% of middle school students felt that they were bullied during their school careers, and 20% of these individuals reported



being severely traumatized by the peer abuse (Carney, 2000). Individuals who are frequent victims of peer abuse are five times more likely to demonstrate suicide ideation and four times more likely to attempt suicide than adolescents who are not victims (Dineen, 2007). Klomek et al. (2008) examined different types of victimization that occurs to adolescents, and found that any frequency of peer victimization in females was associated with depression and suicidality. For males, only frequent peer victimization was associated with depression and suicidality. This study also found that the more types of peer victimization an individual is exposed to, the higher the risk for depression and suicidality.

Not only are the victims affected by bullying, but also the bullies themselves and bystanders that witness the peer abuse also suffer from the experience. Kircaldy et al. (2008) examined adolescent bullies and found that bullies are as likely to be depressed as their victims. Studies also show that bullies have more suicidal ideation, depression, and suicide attempts than the general adolescent population, and that even infrequently bullying others increases the likelihood of suicidal ideation (Kircaldy et al., 2008; Dineen, 2007). When investigating how people related to a victim of bullying through rating a fictional character's suicide risk, Carney (2000) found that both real victims of bullying and bystanders who witness bullying rated the fictional character the same high risk for suicide. From this finding, Carney (2000) states that bystanders are impacted by witnessing peers being abused, since it may be traumatic to witness. This means that prevention and interventions efforts should focus on bystanders along with victims and bullies.

Adolescents with a history of previous suicide attempts are more likely to display delinquent behavior such as substance use and criminal activity (Kirkcaldy et al., 2004). Studies have shown that adolescents within the juvenile justice system are five times more likely to be suicidal than other adolescents (Langinricksen-Rohling & Lamis, 2008). Laningricksen-Rohling and Lamis (2008) believe that delinquent youth are at an increased risk of suicide because aggressive and other impulsive tendencies are common in this population, and perhaps these tendencies are the underlying reason for both delinquency and suicidal behavior.

When examining delinquency, emotional distress, and suicidal behaviors, Liu (2004) found that low rates of delinquency and high emotional distress had the highest rate of suicide attempts (log odds of 1.8). This finding contradicts other research stating that delinquency, but in a discussion of the findings Liu (2004) states that on average, delinquent girls have an increased risk of suicide ideation and suicide attempts. On the other hand, Lui (2004) states that anti-social delinquent girls are not as prone to self-destructive behaviors under high emotion distress as other delinquent females. This finding has several limitations such as using a wide range of self reported behaviors to determine delinquency, and does not investigate anti-social characteristics, and these findings should be viewed with caution.

Risk taking behaviors in general seem to increase an adolescent's risk of committing suicide. Hallfors et al. (2004) report that risk behaviors such as having sex and using substances increases the risk of depression, suicide ideation, and suicide attempts even after controlling for other factors such as ethnicity, gender, and socioeconomic status. Bae et al. (2005) revealed that many adolescents perform one or more risk behaviors, and that a combination of risk behaviors such as substance use, having sex, physically fighting, eating disorders, and carrying a weapon was predictive of suicide attempts. However, risky behaviors may be caused by other underlying

factors, such as negative coping skills, having a personality disorder such as conduct disorder or rebelling against parents.

### *Homelessness*

Homelessness within youth populations is typically not examined when examining risk factors for suicide, yet suicide is the leading cause of death for adolescents living on the streets. Kidd (2004) found that 46% of participants in his study of homeless youth had made at least one prior suicide attempt. Homeless adolescents report feeling trapped and that suicide is the only way to get “off the streets.” Kidd (2004) also found that hopelessness and feelings of being worthless contributed to suicidal behaviors, and 53% of participants linked drug addiction to the reason why they attempted suicide. Kidd (2006) found that suicide attempts in adolescents with history of abuse decreased when these individuals left home for the streets, which implies that stresses from an abusive home are more distressing than the stresses the youth face on the streets. On the other hand, sexual victimization is a common occurrence for adolescents living on the streets, and Kidd (2006) found that it increased suicide attempts.

### *Cluster Suicides*

Kidd (2006) and Groves et al. (2007) found that having a friend who has attempted or committed suicide increases the risk of another adolescent attempting or committing suicide. Although this study was conducted with homeless youth, research also supports this phenomenon in the entire youth population. Moskos et al. (2004) estimate that five percent of all suicides can be considered cluster suicides. A cluster suicide is when a familiar person, like a friend, school mate, or family member commits suicide and others attempt or commit suicide following the familiar person’s death. Cluster suicides also occur when the media has coverage

of a person's suicide. Because of the increase in the suicide rate after a media portrayal of a suicide, (Moskos et al., 2004) states that the Center for Disease Control and Prevention has developed guidelines for the media when reporting on suicides.

### *Access to Firearms*

In the United States, 67% of adolescents who completed suicide used firearms to end their life (Moskos et al., 2004). Firearms are the most common method used by males, and second most common in females (Shain, 2007). Because of the high incidence of firearm use in suicide and the fact that firearms are very lethal, having access to a firearm is associated with a higher risk for suicide (Shain, 2007). O'Donnel et al. (2004) found that a majority of middle school students have access to firearms. The Center for Disease Control and Prevention urges parents to restrict access to firearms by removing them from the home or locking them in a storage unit, and each safe firearm storage practice has been shown to reduce the risk of suicide (Shain, 2007; Moskos et al., 2004).

## Identified Risk Factors Summary

### Screening Tools

Because there are a variety of different risk factors, clinicians use many different screening tools to help identify an individual who is at a heightened risk for suicide. Although mental health professionals should know the available screening tools, other professionals are beginning to be trained in accessing suicide. The American Medical Association suggests that physicians should assess suicide during regular appointments (Gutierrez, 2006). Teachers are

also beginning to be trained to look for warning signs of suicide, and some schools are beginning to ask about suicide on annual screening days (Wachter & Bouck, 2008; Gutierrez, 2006).

### *SADPERSONS*

Patterson, Dohn, Bird, and Patterson (1983) developed a simple instrument based on population statistics to identify an adult who is most at risk for attempting suicide (Herman, 2006). Faille et al. (2007) show how this test was changed in order to screen adolescents. It is known by the acronym, SADPERSONS and each letter represents a risk factor to screen for. S is sex, which the highest risk factor for suicide completion is male, and A is for age, in which adolescents older than 15 are more likely to attempt suicide. D is for depression or other psychiatric disorder, and the P is for previous suicide attempt. E is for ethanol or drug abuse, and R is rational thinking loss or psychosis. S is for social supports lacking, and O is for an organized plan. N is for neglect or other family stressors including parental suicide, and S is for problems at school, such as being a victim of bullying. Each letter is worth one point if the risk factor is demonstrated within the individual and the higher risk is in individuals with higher scores, with a previous attempt being the most significant predictor of a future attempt (Faille et al., 2007). Herman (2006) states that anyone with a score above five should be hospitalized. Although there are no formal studies to confirm validity and reliability, the SADPERSONS has shown preliminary validity within community settings, mental health facilities, and purely medical settings. In fact, the Joint Commission for the Accreditation of Hospitals recommends the use of the SADPERSONS (Herman, 2006).

### *Suicidal Ideation Questionnaire*

One screening tool is the Suicidal Ideation Questionnaire (SIQ). This instrument was developed by Reynolds (1998) and was generated from semi-structured interviews with 150 adolescents with severe mood disturbances and suicide behaviors. Once the questions were selected, it was first tested for psychometric properties on a sample of high school students (Gutierrez & Osman, 2008). The SIQ is a thirty item self report instrument that examines the thoughts and ideas that are associated with suicidal behaviors. There is a version for adolescents in grades 10-12, and a fifteen item test for grades 7-9. The SIQ is based on the theory that if an individual has intent and serious thoughts of suicide, a suicide attempt is likely (Gutierrez & Osman, 2008). Studies that have used the SIQ include Klomek et al. (2008), Rutter and Estrada (2006), and Eckert et al. (2006). Rutter and Estrada (2006) state that the internal consistency of the SIQ is approximately .97, and concurrent validity has been shown in the significant differences in scores between adolescent psychiatric controls and those with suicidal ideation and suicide attempts. The test-retest reliability with a four week span is moderately high (.72) (Gutierrez & Osman, 2008). Gutierrez and Osman (2008) suggest that this instrument should be used with another test, since the cut-off score has been controversial and the test only examines thoughts, not behaviors.

#### *Self-Harm Questionnaire*

Another instrument that is used is the Self-Harm Behavior Questionnaire (SHBQ), which is a self-report instrument that examines four facets of suicidal behaviors. The four factors that are addressed with the SHBQ are past suicide attempts, suicide threat, suicide ideation, and self-harm. It was developed by Gutierrez (1998) with the observation that people were more comfortable circling responses instead of verbally admitting to suicidal behaviors (Gutierrez & Osman, 2008). This instrument is used for adolescents over the age of thirteen. The SHBQ has a

yes/no format, and a yes answer asks the person to elaborate. For example, if a person says yes to the question, "Have you ever intentionally hurt yourself?" then the person would answer questions about the frequency, what age did they start, and if medical attention was needed. If the person answers no, then he or she goes to the next question. This means that this instrument allows clinicians to gather in-depth information about the adolescent, and allows for easy scoring for research.

Gutierrez et al. (2001) shows that the four factors that are examined with the SHBQ are not redundant, since they had mainly low and one moderate correlation with each other, which means that the four factors measure separate construct but are still related. This study also calculated internal consistency scores between .89 and .96, and that the SHBQ has moderate to strong convergent validity with other widely validated measures of suicidality such as the Suicidal Behaviors Questionnaire-Revised and the Adult Suicidal Ideation Questionnaire. Test-retest reliability ranges are .96 for suicide attempts, .98 for self-harm, .93 for suicide threat, and .93 for suicide ideation for spans ranging from seven to 150 days (Gutierrez & Osman, 2008). Gutierrez and Osman (2008) state that the SHBQ has strong empirical foundation, but lacks assessment of protective factors. From these conclusions, the SHBQ is rated as a moderate screening tool for suicidal behaviors (Gutierrez & Osman, 2008).

#### *Suicidal Behaviors Questionnaire-Revised*

The Suicidal Behaviors Questionnaire-Revised (SBQ-R) is a four item questionnaire that examines past suicide ideation, attempts, frequency of suicidal thoughts, suicide threats, and likelihood of suicide. Each question is in a Likert style format, and the sum of the ratings gives a measure of suicidal behavior. Muehlenkamp et al. (2005) states that the SBQ-R has a good

convergent validity with the SHBQ ( $r = .77$ ), which means the tests measure the same concept. The cutoff scores have been found to be sensitive (.93-1) and the SBQ-R has negative predictive power (.93-1) in distinguishing at risk young adults from controls (Muehlenkamp et al., 2005). Item 1 of the SBQ-R, which asks if one has ever thought about or attempted to kill oneself, is especially sensitive in defining subgroups of those who ideate about suicide and nonsuicidal participants, and it is used extensively in research (Gutierrez et al., 2001).

### *Reasons for Living Inventory for Adolescents*

The Reasons for Living Inventory for Adolescents (RFL-A) is based on the cognitive-behavioral belief that there are protective factors that guard against suicide. It was developed by for adults by Linehan, Goodstein, Nielsen, and Chiles (1983) and adapted for adolescents by Osman and Downs (1998) by asking high school students, inpatient adolescents, teachers, social workers, and psychologists what would prevent a person from committing suicide. Factor analysis was used to develop the five facets of protective factors, which include future optimism, attitudes towards suicide, family alliance, peer acceptance and support, and self-acceptance. Those most at risk for suicide are adolescents who score low on the RFL-A. There is no estimate for test-re-test reliability, but internal consistency reliability ranges from .92 to .96. Concurrent validity measures are typically moderate, like when the RFL-A is compared with the Beck Hopelessness Scale (-.65) and the Suicide Probability Scale (-.60) (Gutierrez & Osman, 2008). Gutierrez (2006) states that the RFL-A is a reliable and valid measure that has better predictive power than the Beck Hopelessness Scale. However, Gutierrez and Osman (2008) rate this instrument as moderately useful, since estimates of predictive and criterion validity have not been replicated in various groups of clinical and nonclinical adolescent groups.



### *Suicide Resilience Inventory-25*

The Suicide Resilience Inventory-25 (SRI-25) is a self-report instrument that was developed by Osman et al. (2004) using clinical and nonclinical adolescent populations. This test assesses three major resiliency factors that protect against suicidal behaviors by evaluating adaptive responses. Each of the protective factors, which are internal protective, external protective and emotional stability, is empirically based. A study that used the SRI-25 is Rutter and Estrada (2006). Rutter and Estrada (2006) reports that the internal consistency reliability for high school students (.96) and clinical samples (.95) are high. Gutierrez and Osman (2008) found that the internal consistency reliability for the SRI-25 was .95, and that the SRI-25 differentiated between groups, since the nonclinical population scored significantly higher than the clinical controls. However, this was a preliminary study and Gutierrez and Osman (2008) caution using this screening tool alone until reliability and validity estimates can be fully examined in future studies. The SRI-25 is useful for adolescents when combined with another screening tool.

### *Positive and Negative Suicide Ideation Inventory*

The Positive and Negative Suicide Ideation Inventory (PANSI) measures both risk and protective factors and how the factors influence to the person's overall risk level in a self-report format. It was developed by Osman and Gutierrez (1998) by testing college students under 21, which means caution should be used when using with adolescents. There are two facets to the test, one that measures negative ideation and the positive ideation that an individual has. Muehlenkamp et al. (2005) found that both the positive and negative facets have adequate internal consistency for diverse ethnic and racial groups. However, it is suggested that the

separate scale scores be used instead of a total score when assessing for suicidal risk. Gutierrez and Osman (2008) states that reliability estimates were high for both the positive (.81) and negative (.94) scales when evaluated in a study with adolescents. Although the test-retest reliability had moderate correlations, this is acceptable because of the fluid nature of suicidality (Gutierrez & Osman, 2008). Even though the PANSI has good psychometric properties, it is urged by Gutierrez and Osman (2008) that the PANSI should be used concurrently with another screening tool to produce the best assessment in both clinical and nonclinical populations.

#### *Multi-Attitude Suicide Tendency Scale*

The Multi-Attitude Suicide Tendency Scale (MAST) was developed by Orbach and colleagues (1991) in Israeli to distinguish suicidal youths from non-suicidal youth by examining patterns in attitudes of life, experiences with pain and stress, attraction to death, and religious beliefs about an afterlife. Since the MAST was developed in Israeli, Gutierrez and Osman (2008) investigated the psychometric properties of the MAST in African American and Caucasian youths in the United States. This study is still ongoing, but preliminary studies show that the test does not measure for youth within the United States until the racial and ethnical bias is eliminated.

#### Peer Suicide Scan

From my research on risk factors and the screening tools used to assess these factors, I have developed a screening tool for adolescents and lay persons to use. I believe that the SADPERSONS model from Faille et al. (2007) is the most useful and easy to use screening tool. The use of acronyms helps the user remember what risk factors to look for. However, I wanted to create a screening tool that had the most common risks of previous attempts, depression, and

substance use to be first so the user remembers the most important factors first. I also wanted to develop a screening tool that has words instead of just letters, so it would be easier for adolescents to remember.

### Peer Suicide Scan

There are combinations of risk factors that may lead to a person to attempt suicide, and generally the more risk factors that are present the risk of a suicide attempt increases. A person must also remember that people are unique and may not be suicidal if they are displaying these risk factors. However, it is appropriate to ask if the person has a change in the way they are acting, or begin to say things like, "I don't deserve to live" "People would be better off without me" and "I don't want to be here anymore." If the person answers yes to two or more of the following, a trusted adult should be notified.

Remember the following statement: "Past Hope Drinks Drank Plan Away"

Past – Have you tried to kill yourself before?

Hope – Are you feeling hopeless?

Drinks – Do you drink or use drugs regularly?

Drank – Are you currently intoxicated?

Plan – Do you have a plan on how you would kill yourself?

Away – Do you have access to your intended means of suicide?

To assess my screening tool, I asked several professionals within the field of human service to examine and provide feedback on the Peer Suicide Scan. Shirley Johnson is a licensed psychologist who works at the Fairview Employee Help system. Her feedback was that a tool like this should focus on the person as a whole. She believes that it is important to ask the person what makes them happy and if they think life will get better, instead of asking if the person feels hopeless. Also, she stated that there should be more questions, and these additional questions should address if the person feels happiness from anything, and if they envision a future. This tool should assess if the person experienced a recent life change such as a loss of a close person and if the person is experiencing problems at home or school.

Jessie Mallum is another professional within the human service field that evaluated this screening tool. Jessie Mallum is a mental health practitioner who works at Range Mental Health Center that leads a day treatment group for young adult with mental illness and/or chemical dependency, and also provides intense case management to individuals. She suggested that this tool be used for adolescents older than 15, because it is a mature concept and language. To make the instrument more informative, Jessie suggested that the last question should have the adolescent explain about his or her plan and how he or she would carry it out. Instead of asking if the person wants to kill themselves, she suggested that the wording be changed to address if the person wants to commit suicide or harm themselves. Otherwise, Jessie found it to be an interesting way to screen for suicide risk in adolescents.

### Conclusion

There are many risk factors for adolescent suicide and multiple screening tools to assess if a person is at risk. Although screening tools are used by clinicians and researchers, teachers and peers that come into contact with an adolescent that may be at risk typically do not have access to these screening tools because of the cost. For example, the Suicidal Ideation Questionnaire sells for \$172 on the internet (Stoelting Inc., nd). Also, although many tests only take 10-20 minutes to administer, a person must score it using a score key that takes additional time. Herman (2006) states that for a person that is depressed, ten minutes may be too long and require too much attention. The Peer Suicide Scan is a relatively quick test to assess if the person is at risk of committing suicide. This tool should be presented during health class when suicide is discussed for older adolescents that can cognitively understand the implications of a suicide screening tool. I believe adolescents are in a good position to screen each other, since they are the ones who will notice the changes in the individual who may be at risk. The Peer Suicide Scan will allow the adolescent a way of approaching a peer who may be at risk. Adolescent suicide is a serious health concern, but a combination of prevention methods such as restricting access to firearms and intervention methods such as the Peer Suicide Scan can help decrease the adolescent suicide rate to help end this tragic loss of life.

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